



24 July 2013

The Director-General
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Originally sent by email to:
phil.jones@planning.nsw.gov.au

Attention: Mr Phil Jones

Dear Sir

Re: Calga Sand Quarry Southern Extension

This letter provides responses to the remaining issues raised in submissions received by the Department of Planning and Infrastructure, and also provides clarification to a number of issues raised by the Department in its discussions with Rocla Materials Pty Limited (Rocla). This response is effectively a supplement to the Response to Submissions and the Preferred Project Report, previously submitted to the Department on 12 November 2012.

Groundwater

Please find enclosed a revised Groundwater Assessment prepared by Dr Noel Merrick of Heritage Computing Pty Ltd (see **Enclosure 1**). This revised assessment uses a transient model as requested in the review undertaken by Kalf and Associates Pty Limited.

The key conclusions of the revised Groundwater Assessment are as follows.

- a) The extent of the drawdown resulting from the proposed extraction operations is smaller than that previously predicted by Golder (2009).
- b) The drawdown at private bores is significantly less than predicted by Golder (2009)
- c) Average pit inflows would be in the order of 23 ML per annum, with a maximum pit inflow of 74 ML per annum (in about Year 6).
- d) The maximum reduction in flow during extraction is predicted to be approximately 0.2% (0.002 ML/day) at Cabbage Tree Creek and about 0.1 ML/day at Creeks A, B and C. We note that 0.1ML/day represents approximately 10% of the average daily flows recorded in the surface water assessment and recorded in Table 5.12 of the Environmental Impact Assessment.
- e) Groundwater Dependent Ecosystems (GDEs) associated with Cabbage Tree Creek are unlikely to be significantly affected by extraction.
- f) The obligate GDE (E54) along Creek B could be affected by predicted water table drawdowns of up to 5m although as discussed in (d) above. The actual reduction in flow in Creek B would be <10%.
- g) The facultative GDE (E2) along Creek C is unlikely to be affected by predicted water table drawdowns of about 0.1 m and a reduction in baseflow of no more than 0.1 ML/day.

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Demand for Quarry Products

In its submission, the Community Environment Network Inc. submitted that the demand for quarry products from the Calga Sand Quarry Southern Extension has not been sufficiently justified by Rocla. Please find enclosed a letter from Mr John Turton of the Cement Concrete & Aggregates Australia outlining the forecast demand for concrete and quarry products in the Sydney metropolitan area (see **Enclosure 2**). Mr Turton concludes that given the forecast increase in demand for these products, and the limited remaining resources at Sydney's two largest producers of fine and coarse sand (being Kurnell and Penrith Lakes Quarries respectively), there will be insufficient supplies of these products from existing approved quarries within the Sydney region, particularly at those to the north of Sydney. As such, the demand for the increase in supply of quarry products from the Calga Sand Quarry (particularly in the northern suburbs of Sydney is considered to be justified.

Biodiversity Offset

In its submission, the NSW Office of Environment and Heritage notes a difference between the area of "sandstone hanging swamp" presented in Table 2.9 of the Preferred Project Report and that presented by Bell (2004).

Rocla acknowledges that there are some errors within Table 2.9 of the Preferred Project Report. **Table 2.9** (amended) presents the correct vegetation clearance and offsets for the biodiversity offset strategy for the Project.

Table 2.9 (Amended)
Vegetation Clearance and Offsets

Vegetation Community	Vegetation Disturbance			Biodiversity Offset			
	Stage 4	Access Roads	Total Area	On-site		Off-site	
				Areas to be Retained	Stage 5	Glenworth Valley	Total Area
E103 Gahnia-Banksia Swamp GWD	0.4	0.0	0.4	0.0	0.0	0.0	0.0
E2 Sandstone Ranges Gully Rainforest RS, LS, FGWD	0.0	0.0	0.0	0.5	0.0	0.8	1.3
E20 Dharug Footslopes Apple Redgum Forest	0.0	0.1	0.1	0.0	0.0	3.2	3.2
E25 Hawkesbury Peppermint Apple Forest LS	0.05	0.5	0.55	11.3	0.0	18.8	30.1
E26 Exposed Hawkesbury Woodland LS	7.2	1.1	8.3	19.9	3.0	15.8	38.7
E26a Hawkesbury Rock Pavement Heath LS	0.0	0.0	0.0	1.0	0.0	0.9	1.9
E29 Hawkesbury Banksia Scrub-Woodland LS	9.5	0.5	10.0	9.6	2.8	0.0	12.4
E29a Hawkesbury Banksia Scrub-Woodland (Scrub)	4.6	0.1	4.7	4.4	3.1	0.0	7.5
E29b Hawkesbury Banksia Wet Scrub	1.0	0.1	1.1	0.1	0.0	0.1	0.2
E54 Sandstone Hanging Swamp RS, LS, GWD	0.0	0.0	0.0	0.0	0.0	1.4	1.4
Xr Disturbed- Canopy Only	0.3	0.1	0.4	0.0	0.0	0.0	0.0
Xs Disturbed - Regrowth	2.0	0.8	2.8	0.2	0.1	0.0	0.3
Unmapped (exotics)	4.55	0.2	4.75	3.9	0.7	0.0	4.6
Total (ha)*	29.6	3.5	33.1	50.9	9.7	41.0	101.6
Total (native only)	25.05	3.3	28.35	47.0	9.0	41.0	97.0
Offset: Clearing Ratio 101.6ha:28.35ha				3.42			
* Excludes unmapped vegetation							
# Does not include the areas of the "Glenworth Valley" property within the nominated access road corridor							
Note: RS – denotes communities regarded as Regionally Significant LS – denotes communities regarded as Locally Significant GWD – denotes communities regarded as Groundwater Dependent FGWD – denotes communities regarded as Facultative Groundwater Dependent				East – refers to Southeast and Northeast Offset Areas West – refers to West and Southwest Offset Areas			

The vegetation mapping prepared by Cumberland Ecology Pty Limited was completed by ground-truthing vegetation units delineated by aerial photo interpretation. Rocla would ensure that its quarrying activities would avoid any direct impacts on this vegetation community within the offset area.

Air Quality

In its submission, the Environment Protection Authority (EPA) requested that, given that new technology is now more readily available, TEOM measurement should now be used for the monitoring of PM₁₀ particulate matter rather than the proposed High Volume Air Samplers.

Given the high cost of TEOM units, and the absence of any exceedances in deposited dust levels from the existing quarry over a period of 7 years, Rocla considers it appropriate that only one TEOM unit be installed near the Quarry. Rocla has commissioned Pacific Environment Pty Limited to investigate the use of TEOM monitoring at the Quarry who has recommended that one TEOM unit is installed near the cluster of residences on the eastern side of Peats Ridge Road as these are the closest sensitive receptors.

One High Volume Air Sampler would also be installed at an appropriate location near the Quarry to monitor for PM₁₀ particulate matter. As such, two different methods of monitoring for particulate matter around the Quarry together with the ongoing deposited dust monitoring is considered most appropriate.

Rocla will continue to monitor deposited dust levels around the quarry during the initial TEOM and HVAS monitoring to establish the relationship between the various particulates sampled.

Aboriginal Heritage

The following provides a response to the submission lodged by the Darkinjung Local Aboriginal Land Council on 23 January 2013, which expresses that the Aboriginal heritage assessment prepared by Forward Planning Heritage Solutions and dated July 2012 remains incomplete.

The Aboriginal Heritage of the section of the Project Site on which the southern extension of the Calga Sand Quarry is proposed is a matter that has been acknowledged as significant by Rocla.

The existence of an engraving now referred to as a “Women’s Site” was first registered by Sims in 1965, however, its exact location was unknown to Rocla. The site was subsequently located by Mr. John Appleton during the preparation of the Aboriginal Heritage Assessment for the 2009 Environmental Assessment.

The determination in 2010 by a consensus amongst the Aboriginal stakeholders that the site was a “women’s only” site meant that further investigation of this particular part of the Aboriginal heritage assessment has been left in the hands of female archaeologists and a female anthropologist.

Since the site was relocated by Mr Appleton in 2009 (in conjunction with Mr Sims, the person who originally discovered the site in 1965), there have been a number of visits to it by local Aboriginal women. Each request for access by local Aboriginal women has been accommodated by Rocla.

A number of meetings have been held with local Aboriginal women as well as with groups which represent them to discuss the significance of the site. These meetings have been held on site as well as off site in order to accommodate the wishes of the local women. These meetings are documented in the Consultation Log attached in Appendix C of the Response to Submissions documentation (RTS) sent to the Department of Planning and Infrastructure in November 2012.

Concerns raised during those discussions were addressed by Rocla who commissioned a further Aboriginal Heritage Assessment by Ms A. Atkinson which covered the whole of the lot on which the proposed quarry extension would be located as far as was practicably possible, by way of field survey held over 4 days, i.e. 11th to 14 July 2011.

Recommendations were made for the women's-only site, all of which Rocla has accepted and identified a larger buffer zone around the site than originally proposed. An amended copy of Figure 2.1 is included in **Enclosure 4** highlighting the area removed from the Stage 4 and Stage 5 extraction boundaries in response to the Aboriginal heritage recommendations. Ms Atkinson's report also documents the presence of other non-women's sites, and has made recommendations for the preservation and management of those sites.

A further investigative anthropological study was prepared by Dr Anne Ross of Queensland University. This report was prepared by Dr Ross after further site inspections together with discussions with the local Aboriginal women's groups who have spent time at the women's-only site in the last few years.

Dr Ross recommended that Rocla negotiate with the local Aboriginal women's community to determine buffer zones around the "Women's Site". Both Ms Atkinson's report and Dr Ross's report were circulated to interested parties for comment.

Darkinjung Local Aboriginal Land Council provided commentary on Ms Atkinson's report, however, there was no response to Dr Ross's report.

At all times, Rocla has been prepared to discuss issues relating to all the Aboriginal sites within the Site. There have been a number of fora in which these matters have been open to discussion, including both public and private opportunities. A list of the consultations is included as Appendix C of the RTS.

Rocla recognises the significance of the Aboriginal sites within the proposed quarry extension area and has accordingly designed the quarry extension to avoid disturbance of all but one site. Rocla remains committed to working with the local Aboriginal community to ensure the preservation of the identified sites and to facilitate continued access to those who wish and are entitled to visit the respective sites, particularly the women's-only site.

Electricity Easement

Please find attached a copy of correspondence from TransGrid dated 30 May 2013 providing Rocla with advice relating to extraction operations within its existing easement that traverses Lots 1 and 2, DP805358 (see **Enclosure 3**). Please note that as a result of the consultation undertaken with TransGrid, minor amendments have been made to the eastern boundaries of the Stage 4 and Stage 5 extraction areas. A copy of the amended Indicative Site Layout (EA Figure 2.1 amended) displays the final boundary of the Stage 4 and 5 extraction areas (see **Enclosure 4**). At the Department's request, we would be pleased to provide any other figures previously provided to the Department with the amended extraction area boundaries shown.

Groundwater Bores

In response to Calga Peats Ridge Community Groups assertion in its Submission 1 that the Gazzana production bores have been moved as a result of insufficient yield, please find attached a letter signed by Mr Tony Gazzana outlining that these bores have not been relocated (see **Enclosure 5**).

Water Access Licences

Rocla would ensure that sufficient water access licences are held to provide for the requirements of all activities taking place on site as well as any groundwater pit inflows which would occur as a result of the extraction. In light of the revised Groundwater Assessment discussed above, Rocla will only require to hold water access licences for 74ML/a by Year 6. Given Rocla currently holds water access licences for 92ML, and with a transaction for a further 37ML licence to be completed imminently, Rocla is fully compliant with the requirements for the *Water Management Act 2000*.

Land Zoning

As discussed at the meeting held with Departmental representatives on 19 March 2013, Rocla can confirm that Stage 4 is wholly within the Rural Landscape zone outlined in the Gosford Local Environment Plan 2009.

Final Landform

Please find attached plans showing the amended final landform of the Project Site with amendments to the area between Stage 3 and Stage 4 shown as requested by the Department (see **Enclosure 6**). The amended final landform provides more gentle slopes within and around the proposed buffer surrounding the "Women's Site" with slopes typically varying from 8° to 25°.

Hours of Operation

The following confirms the hours of operation of the quarry as requested by the Department of Planning and Infrastructure in its meeting with Rocla on 19 March 2013. The proposed operating hours would be as follows.

Extraction and Processing	Monday to Friday	6:00am to 10:00pm
	Saturday	6:00am to 6:00pm
Product Transportation	Monday to Friday	5:00am to 10:00pm
	Saturday	5:00am to 10:00pm

Should you have any questions about the information supplied, please don't hesitate to contact either Rob Corkery or myself in our Brooklyn Office.

Yours sincerely



David Schumacher
Environmental Consultant

- Encls: 1. Revised Groundwater Assessment (115 Pages)
2. Letter from Mr John Turton (4 Pages)
3. TransGrid Approval Letter (2 Pages)
4. Revised Extraction Area within Electricity Easement (1 Page)
5. Letter from Mr Tony Gazzana (1 Page)
6. Revised Final Landform (1 Page)

Copy: Rocla Materials Pty Ltd